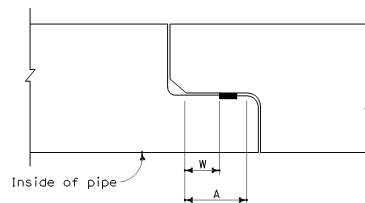
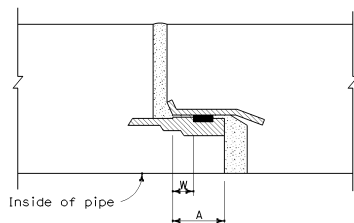
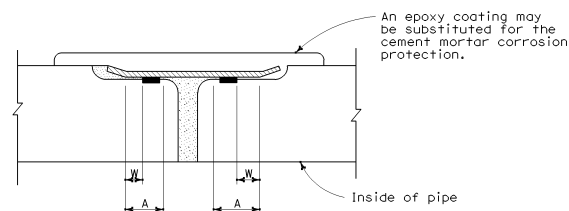
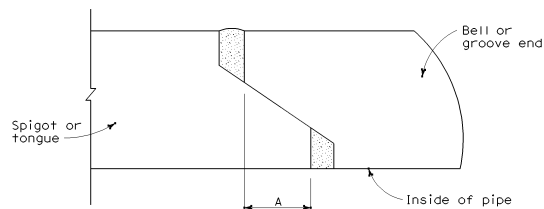
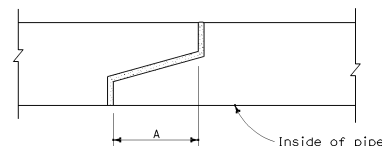
**CONCRETE JOINT-FLARED BELL DESIGN****CONCRETE JOINT-FLUSH BELL DESIGN****STEEL JOINT-FLUSH BELL DESIGN****CONCRETE JOINT-DOUBLE GASKET DESIGN****SELF-CENTERING TONGUE & GROOVE**

(See Note 4)

**TONGUE & GROOVE DESIGN****TABLE A**

PIPE DIAMETER LIMITS	MINIMUM JOINT OVERLAP			
	Standard "A"	Positive "A"	Standard "W"	Positive "W"
150 mm through 300 mm	6 mm	13 mm	6 mm	9 mm
375 mm through 825 mm	13 mm	19 mm	6 mm	13 mm
Greater than 825 mm	19 mm	25 mm	9 mm	16 mm

LEGEND

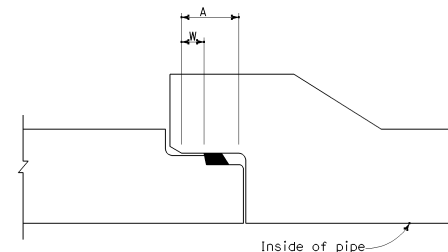
- Cement Mortar
- Rubber Gasket
- Steel



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET TOTAL NO. SHEETS

REGISTERED CIVIL ENGINEER
 July 1, 2004
 PLANS APPROVAL DATE
 No. C34547
 Exp. 9-30-05
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

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**CONCRETE JOINT-SINGLE OR DOUBLE OFFSET DESIGN**

(Flared or Flush Bell)

NOTES

- For pipe sections installed on straight alignment, the pipe sections shall be joined to provide maximum joint overlap at all points on the joint periphery, but in no case less than the values shown in Table A for "W" if the installation is required to be watertight or "A" for all other installations.
- For pipe sections installed on curved alignment, the pipe sections shall be joined to provide maximum joint overlap on one side of the joint and not less than 6 mm overlap on the other. The 6 mm overlap shall be the "W" dimension for installations required to be watertight, or the "A" dimension for all other installations.
- Watertight joint requirement shall typically be met with the use of rubber gaskets as shown (See Standard Specifications 61-1.02 and 65-1.06). Pipe installed with rubber gaskets shall have a minimum overlap meeting or exceeding the indicated "W" dimension shown in Table A or indicated in Note 2. Joints shown with rubber gaskets may be installed without gaskets in non-watertight applications, in which case the joint shall be sealed with sealing materials described in Standard Specifications 65-1.06, and the minimum joint overlap shall meet or exceed the "A" dimension shown in Table A or indicated in Note 2.
- For Self-Centering Tongue and Groove Joints, the mortar shall be applied after the pipe ends are pushed together. The mortar shall be applied to the joint gap on the inside of the pipe for pipe diameters of 600 mm or more, or to the gap on the outside of the pipe for pipe smaller than 600 mm in diameter.
- When watertight joints are required (See Note 3) and cement mortar joints are not allowed, the taper on surfaces within the "W" dimension at full joint closure and the opposing sealing surfaces of the bells and spigots on which the rubber gaskets may bear during closure of the joint and at any degree of partial closure shall form an angle of not more than 2 degrees with the longitudinal axis of the pipe.

 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**REINFORCED CONCRETE PIPE OR
 NON-REINFORCED CONCRETE PIPE
 STANDARD AND POSITIVE JOINTS**

 NO SCALE
 ALL DIMENSIONS ARE IN
 MILLIMETERS UNLESS OTHERWISE SHOWN
D97H